

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An apparatus for indicating real time focus in a scanning microscope, the apparatus comprising:

5           a detector for detecting an electrical signal from the scanning microscope;  
one or more bandpass filters for filtering the detected electrical signal, wherein  
the one or more bandpass filters are tuned to a desired range of  
frequencies; and  
one or more power indicators for detecting and displaying average power of  
10          the filtered electrical signal of a corresponding bandpass filter.

2. The apparatus of Claim 1, wherein the one or more bandpass filters comprises at least one of a low, medium, or high pass filter.

3. The apparatus of Claim 1, further comprising a focusing device for generating a focusing signal based on the detected average power and focusing the scanning  
15          microscope based on the generated focusing signal.

4. The apparatus of Claim 3, wherein the focusing device automatically performs generating and focusing.

5. The apparatus of Claim 1, wherein the scanning microscope is a confocal microscope.

20          6. A method for indicating real time focus in a scanning microscope, the method comprising:

detecting an electrical signal from the scanning microscope;  
filtering the detected electrical signal according one or more frequency ranges;  
and  
25          detecting average power of the filtered electrical signal for each of the one or  
more frequency ranges; and  
displaying each of the detected average powers of the electrical signal.

7. The method of Claim 6, wherein filtering is performed by one or more bandpass filters.

30          8. The method of Claim 7, wherein the one or more bandpass filters comprises at least one of a low, medium, or high pass filter.

9. The method of Claim 6, further comprising:



generating a focusing signal based on the detected average power; and  
focusing the scanning microscope based on the generated focusing signal.

10. The method of Claim 9, wherein focusing comprises automatically focusing.
11. The method of Claim 6, wherein the scanning microscope is a confocal  
5 microscope.
12. An apparatus for indicating real time focus in a scanning microscope, the  
apparatus comprising:
  - a detector for detecting an electrical signal from the scanning microscope;
  - one or more bandpass filters for filtering the detected electrical signal, wherein  
10 the one or more bandpass filters are tuned to a desired range of  
frequencies; and
  - a focusing device for generating a focusing signal based on the filtered  
electrical signal and focusing the scanning microscope based on the  
generated focusing signal.
15. 13. The apparatus of Claim 12, wherein the focusing device automatically performs  
generating and focusing.